



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,976	11/21/2001	Indra Laksono	VIXS.0100120	4211

29331 7590 07/14/2006

LARSON NEWMAN ABEL POLANSKY & WHITE, LLP
5914 WEST COURTYARD DRIVE
SUITE 200
AUSTIN, TX 78730

EXAMINER

WONG, ALLEN C

ART UNIT PAPER NUMBER

2621

DATE MAILED: 07/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/990,976

Applicant(s)

LAKSONO, INDRA

Examiner

Allen Wong

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 49 is/are allowed.
- 6) ☒ Claim(s) 26-34 and 37-46 is/are rejected.
- 7) ☒ Claim(s) 35,36,47 and 48 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/17/06 has been entered.

Response to Arguments

1. Applicant's arguments filed 5/17/06 have been fully read and considered but they are not persuasive.

New claims 26-49 are presented in the rejection as disclosed below.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 26-34 and 41-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keith (5,493,514) in view of Youn (6,466,623).

Regarding claims 26 and 44, Keith discloses a method and system comprising:

means for accessing a first index table comprising a plurality of entries, each entry comprising an identifier associated with a corresponding memory location storing corresponding macroblock information (col.42, ln.66 to col.43, ln.15; lookup table is accessed or indexed; col.42, ln.11-23 and col.42, ln.66 to col.43, ln.15; Keith discloses the use of pointers to indicate the position of a value from the lookup table or index table of the entry of the block portion); and

means for accessing a first plurality of macroblock information in a first order based on identifiers accessed from a first subset of the plurality of entries of the first index table, wherein the first plurality of macroblock information is associated with a first source macroblock and includes motion vector and quantization information (col.42, ln.11-23 and col.42, ln.66 to col.43, ln.15; Keith discloses video decoding the information from the lookup table that stores data pertaining to macroblock data like quantization level and motion vector data in a certain order).

Although Keith does not specifically disclose generating a first estimated destination motion vector based on the first plurality of macroblock information, however, Youn teaches generating a first estimated destination motion vector based on the first plurality of macroblock information (fig.12, note Youn discloses the transcoding of image data where element 626 is the input source motion vector data that enters into the motion vector circuits 1204, 1202 and 1206, and that the output of element 1206 is considered to be the estimated destination motion vector). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Keith and Youn, as a whole, for minimizing hardware and software complexity and requirements

Art Unit: 2621

for accurately, efficiently encoding and decoding MPEG image data to provide high quality images for display (Youn col.2, ln.37-40).

Note claims 27-31 and 45-46 have similar corresponding elements.

Regarding claims 32-34, Keith discloses wherein the index table includes an end of macroblock indicator to indicate a portion of the index table associated with a destination macroblock (col.42, ln.11-23 and col.42, ln.66 to col.43, ln.15; the pointer is used to index the table for indicating the position of a value from the lookup table or index table of the entry of the block portion).

Regarding claims 41-42, Keith discloses a system comprising:

a video input to receive source video data (fig.4, note input frame is entered);

a video input controller coupled to the video input to determine macroblock information corresponding to the receive source video data, wherein the macroblock information includes motion vector and quantization information (fig.4, element 404 is the unit that determines the macroblock information data by classification, and in col.41, ln.28-34, Keith discloses the macroblock information includes quantization data and motion vector data);

a device coupled to the video input controller to store a plurality of source macroblock information corresponding to the source video data at corresponding memory locations (col.42, ln.66 to col.43, ln.15; note lookup table is accessed or indexed); and

an index table generator having an input to receive a size indicator of a destination image and an output to provide data representative of an index table

Art Unit: 2621

identifying a first portion of the plurality of source macroblock information to be used, wherein the index table is based on the size indicator of the destination image (col.42, ln.66 to col.43, ln.15; note lookup table is accessed or indexed to store information pertaining to identify a certain portion of plural macroblock data, and that the image size is accounted for as shown in fig.15).

Although Keith does not specifically disclose generate a first destination source motion vector, however, Youn teaches generate a first estimated destination motion vector (fig.12, note Youn discloses the transcoding of image data where element 626 is the input source motion vector data that enters into the motion vector circuits 1204, 1202 and 1206, and that the output of element 1206 is considered to be the destination source motion vector). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Keith and Youn, as a whole, for minimizing hardware and software complexity and requirements for accurately, efficiently encoding and decoding MPEG image data to provide high quality images for display (Youn col.2, ln.37-40).

Keith does not specifically disclose the system further comprising: a first memory controller. However, Youn teaches the use of a memory controller (in the embodiment of fig.3, note element 34 is the motion estimator that goes to memory 326 to access and retrieve source macroblock data, and that the estimator 324 uses the source macroblock data to generate motion vector data, thus, the function of the second memory control portion is met since source macroblock data is retrieved, and where encoder element 316 eventually obtains the image data and prepares for coding).

Art Unit: 2621

Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Keith and Youn, as a whole, for minimizing hardware and software complexity and requirements for accurately, efficiently encoding and decoding MPEG image data to provide high quality images for display (Youn col.2, ln.37-40).

Regarding claim 43, Keith does not specifically disclose a second memory controller and an encoder coupled to the second memory controller. However, Youn teaches the use of a memory controller and an encoder portion (in the embodiment of fig.3, note element 34 is the motion estimator that goes to memory 326 to access and retrieve source macroblock data, and that the estimator 324 uses the source macroblock data to generate motion vector data, thus, the function of the second memory control portion is met since source macroblock data is retrieved, and where encoder element 316 eventually obtains the image data and prepares for coding). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Keith and Youn, as a whole, for minimizing hardware and software complexity and requirements for accurately, efficiently encoding and decoding MPEG image data to provide high quality images for display (Youn col.2, ln.37-40).

Claim 37-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keith (5,493,514) in view of Chen (6,259,741).

Regarding claim 37, Keith discloses a method comprising:

storing source macroblock information for each source macroblock of a plurality of source macrblocks (col.42, ln.66 to col.43, ln.15; lookup table is accessed or indexed for storing video source macroblock information);

determining an index table, wherein the index table comprises a plurality of entries, each entry comprising an identifier associated with a memory location storing source macroblock information for a corresponding source macroblock (col.42, ln.11-23 and col.42, ln.66 to col.43, ln.15; Keith discloses video decoding the information from the lookup table or index table that stores data pertaining to macroblock data like quantization level and motion vector data in a certain order); and

storing the index table (col.42, ln.66 to col.43, ln.15; note lookup table is accessed or indexed for storing video source macroblock information).

Although Keith does not specifically disclose the index table based on video source resolution and a video destination resolution, however, Chen teaches the index table based on video source resolution and a video destination resolution (fig.8, note Chen teaches the use of a transcoder for converting image data from one video source resolution to another resolution in that the input is the 4:2:2 bitstream and the output is the 4:2:0 bitstream, and, the Q-matrices 385 and 390 contain information regarding quantization values and other pertinent image data which must be stored in a quantization lookup table or index table). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Keith and Chen, as a whole, for precisely and efficiently decoding and coding image data so as to provide high quality image display (Chen col.4, ln.38-48).

Regarding claims 38-40, Keith discloses the use of a data instruction packet (col.42, ln.11-23; note data bitstream comprises instructions to identify the location of a the index table, where pointer values are included in the instruction data). Although

Art Unit: 2621

Keith does not specifically disclose the use of a transcoder, however, Chen teaches the use of a transcoder (see fig.8 and col.5, ln.8-10; the transcoder comprises the decoder portion and the encoder portion as seen when the image data is variable length decoded at 305, and then, after further processing, variable length encoded at 395, thus, the image data is transcoded).

Allowable Subject Matter

1. Claim 49 is allowed.

The following is a statement of reasons for the indication of allowable subject matter: The prior art does not specifically disclose the combination of limitations as disclosed in claim 49: a method comprising: accessing a first index table; accessing a first plurality of macroblock information in a first order at a video decoder to generate a first decoded image, wherein the first order is based upon the first index table and the first plurality of macroblock information is associated with a source macroblock; processing the first plurality of macroblock information to generate a first estimated destination motion vector; accessing a second index table; accessing a second plurality of macroblock information in a second order at the video decoder to generate a second decoded image, wherein the second order is based upon the second index table and the second plurality of macroblock information is associated with a source macroblock; processing the second plurality of macroblock information to generate a second estimated destination macroblock information; and generating a first macroblock based on the first estimated destination vector and a second macroblock based on the second

Art Unit: 2621

estimated destination vector, wherein the first and second macroblocks are to be displayed simultaneously.

1. Claims 35-36 and 47-48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (571) 272-7341. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm Flextime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Groody can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2621

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Allen Wong
Primary Examiner
Art Unit 2621

AW
7/10/06